PATENT
ATTORNEY DOCKET NO.: KCX-398 (15417)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF APPEALS AND INTERFERENCES

Appellants:	Fish, et al.	Examiner:	Jenna Leigh Befumo
Appl. No.:	10/027,787	T.C./A.U.:	1771
Filed:	December 20, 2001	Deposit Acct. No.:	04-1403
Title:	Flexible Laminate Structures Having Enclosed Discrete Regions of a Material	Confirmation No.:	9570
		Customer No.:	22827

Mailstop Appeal Brief - Patents
Honorable Commissioner for Patents
U.S. Patent and Trademark Office
Post Office Box 1450
Alexandria, VA 22313-1450

BRIEF ON APPEAL

Honorable Commissioner:

Appellants submit the following brief on appeal in accordance with 37 C.F.R. § 41.37:

1. REAL PARTY IN INTEREST

The real party in interest in this matter is the assignee of record, Kimberly-Clark Worldwide, Inc.

2. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to the Appellants or the Appellants' legal representative which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

3. STATUS OF CLAIMS

Claims 1-42 are pending in this application, including independent claims 1, 15, and 25. All the claims are attached hereto as Exhibit A

In the Final Office Action of February 21, 2006, all of the pending claims were finally rejected under 35 U.S.C. §103(a).

4. STATUS OF AMENDMENTS

To the Appellants' knowledge, all amendments have been entered into the record.

5. SUMMARY OF CLAIMED SUBJECT MATTER

In general, the present application is directed to, in one embodiment, a flexible laminate structure that contains pockets formed by fusing at least two substrates together. The pockets contain discrete regions of functional material, such as particles (e.g., superabsorbent materials, filtration materials, etc.) and/or liquids (e.g., water, aqueous liquids, oil-based liguids, etc.). As a result, it has been discovered that relatively inflexible functional materials may be incorporated within the laminate structure without substantially impairing the flexibility of the structure. Pg. 8, line 14-21.

Independent claim 1, for instance, is directed to a flexible laminate structure comprising a first substrate containing a thermoplastic polymer and a second substrate containing a thermoplastic polymer. At least one of the substrates is substantially impermeable to liquids but substantially permeable to gases. Additionally, each substrate is textured using heat and pressure to form elevations and depressions in each substrate, the depressions being fused together to form fused portions and the elevations forming unfused portions. The unfused portions define pockets containing

discrete regions of a functional material, and the functional material is selected from the group consisting of particles, liquids, and combinations thereof. The pockets have an approximate width to height ratio of less than about 10.

Independent claim 15 is directed to a flexible laminate structure comprising a first substrate and a second substrate. The first substrate and the second substrate are selected from the group consisting of nonwoven webs having a thickness less than about 0.1 inches, films having a thickness less than about 0.05 inches, and combinations thereof. The first substrate contains a thermoplastic polymer, and the second substrate contains a thermoplastic polymer. At least one of the substrates is substantially impermeable to liquids but substantially permeable to gases. Each substrate is textured using heat and pressure to form elevations and depressions in each substrate. The depressions are fused together to form fused portions and the elevations form unfused portions. The unfused portions define pockets containing discrete regions of a functional material selected from the group consisting of particles, liquids, and combinations thereof. The pockets have an approximate width to height ratio of between about 1 to about 8.

Independent claim 25 is directed to a method for forming a flexible laminate structure. According to the method of claim 25, a first substrate containing a thermoplastic polymer is provided. A functional material is deposited onto the first substrate in discrete regions. A suctional force is used to facilitate the positioning of the functional material in the discrete regions. The functional material is selected from the group consisting of particles, liquids, and combinations thereof. A second substrate containing a thermoplastic polymer is placed adjacent the first substrate such that the

functional material is sandwiched between the first and the second substrates. Each substrate is textured, and the thermoplastic polymer of the first substrate is fused with the thermoplastic polymer of the second substrate using heat and pressure to form elevations and depressions in each substrate. The depressions form fused portions and the elevations form unfused portions. The unfused portions define pockets containing the discrete regions of the functional material. The pockets have an approximate width to height ratio of less than about 10.

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

In the Final Office Action, independent claims 1, 15, and 25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,892,535 to Bjornberg, et al. in view of U.S. Patent No. 5,411,497 to Tanzer, et al.

Additionally, in the Final Office Action, independent claims 1 and 15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,938,650 to Baer, et al. in view of Tanzer, et al.

Lastly, in the Final Office Action, independent claim 25 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Baer, et al. and Tanzer, et al., further in view of Bjornberg, et al.

7. ARGUMENT

Appellants respectfully submit that the presently pending claims are patentable over the cited references.

I. Independent claims 1, 15, and 25 are patentably distinct over Bjornberg, et al. in view of Tanzer, et al.

Bjornberg, et al. is directed to absorbent pads of the type used to form incontinence pads. The absorbent pad includes a liquid-impervious back sheet and a

liquid-pervious cover sheet having. Absorbent material is spaced on the back sheet in "islands." Pockets are formed in the cover sheet, and the cover sheet is arranged such that the islands of absorbent material on the back sheet are disposed within the pockets of the cover sheet.

However, Bjornberg, et al. completely fails to disclose or suggest certain limitations of Appellants' pending claims. For instance, the Office Action admits that Bjornberg, et al. fails to teach or suggest a flexible laminate structure in which at least one substrate is substantially impermeable to liquids but substantially permeable to gases. Nevertheless, Tanzer, et al. was cited in combination with Bjornberg, et al. in an attempt to render obvious claims 1, 15, and 25.

Tanzer, et al. is directed to an absorbent article comprising a first, liquid-permeable carrier layer and at least a second carrier layer. A water-sensitive attaching means secures together the carrier layers to provide substantially attached zones and substantially unattached zones. Specifically, the Examiner cites Tanzer, et al. as disclosing, at column 6, lines 60-66, that its impermeable back sheet can be made from a microporous, breathable film which allows water vapor to escape from the absorbent structure. (September, 2003 Office Action, at 8). The Office Action further stated that it would have been obvious to substitute Tanzer, et al.'s back sheet for the back sheet taught by Bjornberg, et al.

A. Even if combined, the combination still fails to teach or suggest all of the limitations of independent claims 1, 15, and 25.

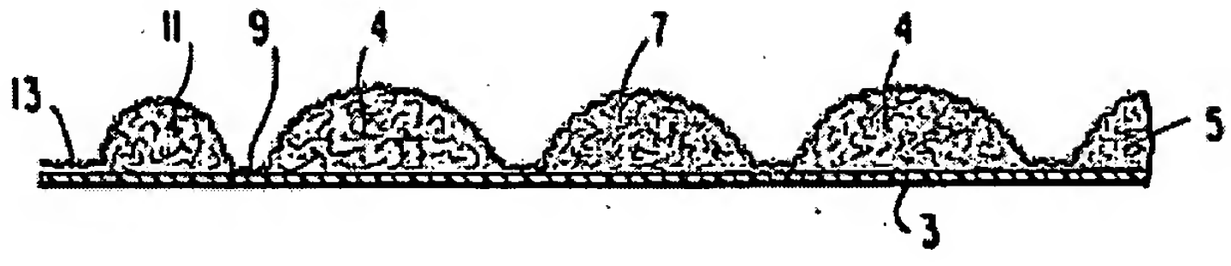
The Office Action fails to recognize that Bjornberg, et al. completely fails to teach, disclose or suggest other limitations of independent claims 1, 15, and 25 that are not

remedied by the combination of Tanzer, et al. Appellants note that it has been long established that in order to establish *prima facie* obviousness, all of the claimed limitations must be taught or suggested in the prior art. See, e.g., MPEP § 2143.03, citing *In concerning Royka,* 490 F.2d 981, 180 (CCPA 1974).

For example, Bjornberg, et al. fails to disclose or suggest a laminate structure wherein each substrate is textured and possesses elevations and depressions, the depressions being fused together to form fused portions and the elevations forming unfused portions. In fact, Appellants respectfully submit that the shape of the product in the final form taught by Bjornberg, et al. is quite distinct from the flexible laminate structure in its final form that is recited in Appellants' pending claims. This deficiency in Bjornberg, et al. is not remedied by the combination of Tanzer, et al.

In Bjornberg, et al., the product in final form is an absorbent pad formed by laminating a liquid-impervious back sheet to a liquid-pervious cover sheet, wherein pockets are formed in the cover sheet while the back sheet remains substantially flat. Bjornberg, et al. describes Figures 1-3 as showing the "absorbent pad 1"—clearly the product in final form—and back sheet 3 is completely flat in those Figures. Col. 3, lines 34-65. For example, referring to Fig. 2 of Bjornberg, et al., which is reproduced below for the convenience of the Board, on the top of back sheet 3 are a plurality of spaced bodies 4 of absorbent material. Col. 3, lines 66-67. The bodies 4 are contained in pockets 5 formed in a continuous liquid-pervious cover sheet 7 that overlies the bodies 4 and is directly secured to back sheet 3 along channels 9 between bodies 4. Col. 4, lines 10-13.

FIG.2



Rather than disclosing or suggesting any embodiment where two substrates in a flexible laminate structure are both textured and possess elevations and depressions, Bjornberg, et al. repeatedly explains that its "pockets" are formed in its "cover sheet" 7, not in its back sheet 3. (See, e.g., col. 2, lines 60-62; col. 4, lines 10-13; col. 5, lines 39-56; col. 7, lines 48-52, etc.). For instance, Bjornberg, et al. describes the cover sheet between the channels being of "three-dimensional form having a plurality of spaced pockets therein, in each of which one of the bodies of absorbent material is disposed," not once suggesting that the back sheet 3 has any sort of "three-dimensional form." Col. 2, lines 41-45.

The Examiner has suggested that the substantially flat back sheet of Bjornberg, et al. would "bulge out" due to the presence of the bodies of absorbent material, and thus result in a substrate that is textured and possesses elevations and depressions. Yet, nothing in the disclosure of Bjornberg, et al. itself contemplates the back sheet 3 as having any configuration other than being substantially flat. And even if such "bulging" did occur, one of ordinary skill in the art would not recognize such a structure as a "textured substrate" having elevations and depressions. A "substantially flat" sheet that only bulges upon contact with particles is not "textured" as understood in the art—i.e., it does not possess a textured form in the absence of such particles.

On the other hand, independent claims 1, 15, and 25 require that both the first and second substrates be textured using heat and pressure to form elevations and depressions in each substrate. For instance, Appellants' Figure 1C shows a side view of substrates 12 and 14 fused together—clearly, the flexible laminate structure or the "product in final form" claimed by Appellants—wherein substrates 12 and 14 are both textured and possess elevations and depressions. The depressions are fused together to form fused portions 24 and the elevations forming unfused portions. (Appl., p. 4, lines 2-6; p. 21, line 24 – p. 22, line 16).

Contrary to particles merely "bulging out," forming such textured substrates (like substrates 12 and 14) that fuse together to form fused portions 24 generally requires a certain level of heat and pressure to mold and shape the substrates into a textured form. Upon cooling, the textured substrates would retain their textured form. Thus, Appellants respectfully submit that any "bulging out" of Bjornberg, et al.'s back sheet 3, due to the presence of particles, simply would not render that back sheet a "textured substrate that possesses elevations and depressions," based on the ordinary meaning to those skilled in the art. Accordingly, then, Appellants respectfully submit that Bjornberg, et al. fails to teach or suggest the limitation in Appellants' claims requiring each substrate to be textured and to possess elevations and depressions, the depressions being fused together to form fused portions and the elevations forming unfused portions.

Furthermore, the method of producing the structure disclosed by Bjornberg, et al. contradicts the Office Action's conclusion that the structures of Bjornberg, et al. inherently have elevations and depressions in both the cover sheet and the backing

layer. For example, referring to Figs. 4 and 5 of Bjornberg, et al., the cover sheet is supplied to the rotating multi-perforate drum having holes the same size and shape and arrangement as the pockets 5 it is desired to form. Col. 5, lines 17-30. As such, the cover sheet is given its shape in the course of producing empty pockets. Col. 5, lines 41-42. Then, the pre-formed pockets are filled. Col. 6, lines 10-15. Last, the liquid-impervious back sheet is attached to the exposed portions of the cover sheet. Col. 7, lines 3-7 and 16-18. In this disclosure, Bjornberg, et al. discloses how to form the pockets only in the cover sheet, but fails to teach or even suggest that any shape be given to the backing sheet.

In stark contrast, independent claims 1, 15, and 25 require that both substrates are textured *using heat and pressure* to form elevations and depressions in each substrate. For example, according to Figure 4, substrates 12 and 14 are passed under roll 30 that is heated and contains a surface having various protrusions 32. (Appl., p. 23, line 26 – p. 24, line 2). Another heated roll 34 can also be used to facilitate the fusing of substrates 12 and 14, and roll 34 may also have a certain pattern of protrusions. (Appl., p. 24, lines 4-10).

Thus, Appellants respectfully submit that Bjornberg, et al. completely fails to disclose or suggest a laminate structure wherein first and second substrates are both textured using heat and pressure to form elevations and depressions in each substrate. And, Tanzer, et al. does not remedy this deficiency in the disclosure of Bjornberg, et al. The backsheet 30 of Tanzer, et al. is neither textured using heat and pressure to form elevations and depressions in it, nor does it define pockets containing discrete regions of a functional material.

As such, Appellants respectfully submit that the Examiner has not met her burden of establishing a *prima facie* case of obviousness. To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested in the prior art.

Additionally, the Office Action seems to admit that Bjornberg, et al. fails to specifically and explicitly disclose that the backing layer has elevations and depressions. Instead, the Office Action states that the backing layer would inherently have elevations and depressions. Inherency may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." MPEP § 2163.07(a). Nowhere does Bjornberg, et al. disclose or even suggest that the backing sheet has elevations and depressions. However, Bjornberg, et al. does expressly disclose that the backing sheet is substantially flat. See, e.g. Col. 5, claim 5. Accordingly, Appellants respectfully submit that independent claims 1, 15, and 25 patentably define over the proposed combination of Bjornberg, et al. and Tanzer, et al.

B. The combination of Bjornberg, et al. and Tanzer, et al. fails to teach or suggest additional limitations of independent claim 25.

Independent claim 25 is directed to a method for forming a flexible laminate structure. In addition to the above-outlined deficiencies of the cited references, Appellants respectfully submit that the combination fails to teach or suggest other limitations of independent claim 25. For example, independent claim 25 requires the step of texturing each substrate and fusing the thermoplastic polymer of said first

substrate with the thermoplastic polymer of said second substrate using heat and pressure to form elevations and depressions in each substrate.

As in greater detail above, rather than disclosing or suggesting any embodiment where two substrates in a flexible laminate structure are both textured and possess elevations and depressions, Bjornberg, et al. repeatedly explains that its "pockets" are formed in its "cover sheet" 7, not in its back sheet 3. Furthermore, Bjornberg, et al., as outlined above, goes to great length explaining how these pockets are pre-formed in the cover sheet, prior to the addition of the absorbent particles, without once mentioning that the backsheet can be texturized. As such, Bjornberg, et al. completely fails to teach or suggest the step of texturing each substrate using heat and pressure.

Likewise, Tanzer, et al. fails to teach or suggest texturing each substrate using heat and pressure. Tanzer, et al. teaches the bonding of the carrier layers 98 and 100 through an adhesive "to allow separation of the carrier layer 98 from carrier layer 100 under the forces of expansion generated ... as the high absorbency material absorbs the aqueous liquid." Col. 3, lines 34-39. The adhesive bonding of Tanzer, et al. is "sufficiently low" to allow such separation.

Thus, neither of the references, either alone or in combination, teach the step of texturing each substrate and fusing the thermoplastic polymer of said first substrate with the thermoplastic polymer of said second substrate using heat and pressure to form elevations and depressions in each substrate. As such, Appellants respectfully submit independent claim 25 is patentable over the cited references.

C. No motivation or suggestion exists to combine Bjornberg, et al. and Tanzer, et al. as attempted by the Office Action.

As explained by the Federal Circuit, obviousness may only be established by modifying the teachings of the prior art to produce the claimed invention if there is some teaching, suggestion, or motivation to do so found either in the reference itself or in the knowledge generally available to one of ordinary skill in the art. See e.g., In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 U.S.P.Q.2d 1941 (Fed. Cir. 1992).

Accordingly, even if all elements of a claim are disclosed in various prior art references, the claimed invention taken as a whole cannot be said to be obvious without some reason given in the prior art why one of ordinary skill would have been prompted to modify the teachings of the references to arrive at the claimed invention. See e.g., In re Regel, 188 U.S.P.Q. 132 (C.C.P.A. 1975). Where no reasonable intrinsic or extrinsic justification exists for the proposed modification, a case of prima facie obviousness will not have been established.

The Office Action states that it would be obvious to substitute the liquid impermeable backsheet 30 of Tanzer, et al.'s entire diaper 10 for one of the backing sheet of Bjornberg, et al. However, backsheet 30 of Tanzer, et al. is neither textured using heat and pressure to form elevations and depressions in it, nor is it fused to any other substrate to define pockets containing discrete regions of a functional material. Despite these differences between backsheet 30 of Tanzer, et al. and the first and second substrates of Appellants' claims, the Office Action attempts to "substitute" the liquid impermeability/gas permeability of Tanzer, et al.'s backsheet 30 into Bjornberg, et al., even though there is no motivation to do so.

Plainly, the Examiner's only incentive or motivation for so modifying Bjornberg, et al. using the teachings of Tanzer, et al. in the manner suggested in the Office Action results from using Appellants' disclosure as a blueprint to reconstruct the claimed invention out of isolated teachings in the prior art, which is improper under 35 U.S.C. § 103. Appellants note that it is improper to use a patent applicant's own specification to provide the only suggestion for modifying the prior art. The Federal Circuit has repeatedly warned against using the Applicant's disclosure as a blueprint to reconstruct the claimed invention out of isolated teachings in the prior art. See Grain Processing Corp. v. American Maize-Products, 5 U.S.P.Q.2d 1788 (Fed. Cir. 1988). Thus, the mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. In re Fritch, 12 U.S.P.Q.2d 1780 (Fed. Cir. 1992).

Accordingly, it is respectfully submitted that any such modification of the cited references relies on the impermissible use of hindsight, which cannot be successfully used to support a *prima facie* case of obviousness.

II. Independent claims 1 and 15 are patentably distinct over Baer, et al. in view of Tanzer, et al.

Baer, et al. is directed to an absorbent core for absorbing liquids. The core includes two thin outer layers, with at least one layer being porous and receptive to body liquids. A quantity of superabsorbent polymer particles of a particular type is provided between the outer layers and is lossely contained in the individual unbonded open zones defined by a plurality of intersecting heat bond lines.

However, Baer, et al. fails to teach several aspects of the present claims. For instance, the Examiner recognizes that Baer, et al. lacks a teaching or suggestion that

at least one of the substrates is "substantially impermeable to liquids but substantially permeable to gases," such as required by independent claims 1 and 15. Also, Baer, et al. fails to disclose or suggest pockets having an approximate width to height ratio of less than about 10 (or between about 1 to about 8). Nevertheless, Tanzer, et al. was combined with Baer, et al. to reject claims 1 and 15.

A. Even if combined, the combination still fails to teach or suggest all of the limitations of independent claims 1, and 15.

Both Baer, et al. and Tanzer, et al. completely fail to teach or suggest a flexible laminate structure containing pockets, wherein those pockets have an approximate width to height ratio of less than about 10 (or between about 1 to about 8). Appellants' pockets may be formed to have relatively small dimensions (e.g., an approximate width to height ratio of less than about 10) regardless of their particular shape to enhance the flexibility of the laminate structure. (Appl., p. 8, lines 18-24; p. 24, lines 24-26). The use of pockets having such relatively small dimensions can allow the resulting laminate structure to remain flexible, even when the pockets contain an inflexible functional material (e.g., activated carbon). (Appl., p. 25, line 28 – p. 26, line 8).

In contrast, neither Baer, et al. nor Tanzer, et al. supplies any dimensions regarding pocket size nor does either reference recognize the flexibility benefits that may be imparted to a laminate structure having pockets according to Appellants' claimed width to height ratios. Accordingly, Appellants respectfully submit that claims 1 and 15 patentably define over the proposed combination of Baer, et al. and Tanzer, et al.

B. No motivation or suggestion exists to combine Baer, et al. and Tanzer, et al. as attempted by the Office Action.

As explained above, Tanzer, et al. does describe one layer of its absorbent article as liquid impermeable and breathable—namely, the liquid impermeable backsheet 30 for the entire diaper 10. (Col. 3, lines 64-65; col. 6, lines 55-68; and Figures 2, 4, and 8). But backsheet 30 is neither textured using heat and pressure to form elevations and depressions in it, nor is it fused to any other substrate to define pockets containing discrete regions of a functional material. Despite these differences between backsheet 30 of Tanzer, et al. and the first and second substrates of Appellants' claims, the Office Action attempts to "substitute" the liquid impermeability/gas permeability of Tanzer, et al.'s backsheet 30 into Baer, et al., even though there is no motivation to do so.

Baer, et al. states that one of the layers of its absorbent core is a nonwoven fabric made from thermoplastic fibers or filaments and that the fabric should be sufficiently porous to allow rapid passage of liquid. (Col. 3). The second outer layer of Baer, et al. may comprise a nonwoven web identical to the first layer, and if the second layer is intended to be the outermost layer of the absorbent core, it may comprise a nonporous continuous film, or a nonwoven fabric laminated to an outwardly facing film. Yet, nothing in Baer, et al. provides any motivation to look to Tanzer, et al. and its liquid impermeable/gas permeable diaper backsheet 30 to make up part of Baer, et al.'s absorbent core.

In fact, it appears that the Office Action's proposed combination of Baer, et al. and Tanzer, et al. results improperly from using Appellants' disclosure as a blueprint to reconstruct the claimed invention out of isolated teachings in the prior art. Thus,

Appellants respectfully submit that independent claims 1 and 15 patentably define over the proposed combination of Baer, et al. and Tanzer, et al.

III. Independent claim 25 is patentable over Baer, et al. in view of Tanzer, et al. in further view of Bjornberg, et al.

Baer, et al. completely fails to disclose certain aspects of the claimed method, for instance, depositing a functional material onto a first substrate in discrete regions, wherein a suctional force is used to facilitate the positioning of the functional material in the discrete regions. Nevertheless, Bjornberg, et al. was combined with Baer, et al. in an attempt to render claim 25 obvious.

Baer, et al. does "detail" how its SAP particles are deposited onto its lower layer—namely, the superabsorbent polymer particles are uniformly deposited onto the lower layer. (Col. 3, lines 57-62; Fig. 1). In particular, this portion of Baer, et al. describes how the lower web of fabric 12 is moved in one direction and how a quantity of SAP 14 is uniformly deposited on the lower layer 12 by powder meter 16. However, nothing in Baer, et al. suggests applying particles to a substrate "in discrete regions" wherein a suctional force is used to facilitate the positioning of the functional material in the discrete regions, according to Appellants' claims.

In light of this, the Office Action attempted to combine Bjornberg, et al. with Baer, et al. because of Bjornberg, et al.'s teachings about, for example, using vacuum chamber 37 to help in "pocket filling." However, Appellants respectfully submit that one having ordinary skill in the art would not have found it obvious to combine Baer, et al., Tanzer, et al., and Bjornberg, et al. and somehow arrive at Appellants' claimed method.

In Figure 1, Baer, et al. makes clear that its two layers of fabric are passed through the nip of a pair of rolls 18 and 20 under heat and pressure, wherein the surface

of one of the rolls is engraved and has a relatively raised repeating bonding pattern. Those rolls 18 and 20 are what cause portions or lines in the two webs to be compacted with the fibers of the two webs being thermally bonded to form a partial laminate, with the remaining areas being unbonded and having the SAP particles loosely resident therein. (See col. 3, line 63 – col. 4, line 4).

In contrast, Bjornberg, et al. discloses a fairly complex system in which pockets are first formed only in the cover sheet at a pocket forming station, are then filled at a pocket filling station, and are later subjected to a glue spraying operation, all of which rely on a single, multi-perforate drum 17 that contains several vacuum chambers (23, 37, 61, and 63). There is no teaching or suggestion in the prior art how one of ordinary skill in the art would modify the process disclosed by Baer, et al. with teachings from the process disclosed by Bjornberg, et al. and arrive at Appellants' method of independent claim 25.

In fact, it appears that the proposed combination of Bjornberg, et al. (which includes a vacuum chamber 37 that aids in filling its pockets with absorbent material) with Baer, et al. is improperly based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention. Thus, Appellants respectfully submit that no teaching or suggestion would have existed at the time the present invention was made for one of ordinary skill in the art to combine teachings from both Bjornberg, et al. and Tanzer, et al. with Baer, et al. and arrive at the method of claim 25. Appellants respectfully submit that independent claim 25 patentably defines over the cited references.

In conclusion, it is respectfully submitted that the claims are patentably distinct over the prior art of record and that the present application is in complete condition for allowance. As such, Appellants respectfully request issuance of the patent.

Respectfully submitted,

DORITY & MANNING,
ATTORNEYS AT LAW, P.A.

November 20, 2006
Date

Alan R. Marshall
Registration No. 56,405

P.O. Box 1449
Greenville, SC 29602
Telephone: (864) 271-1592
Facsimile: (864) 233-7342

8. CLAIMS APPENDIX

1. A flexible laminate structure comprising:

a first substrate containing a thermoplastic polymer and a second substrate containing a thermoplastic polymer, wherein at least one of said substrates is substantially impermeable to liquids but substantially permeable to gases, wherein each substrate is textured using heat and pressure to form elevations and depressions in each substrate, said depressions being fused together to form fused portions and said elevations forming unfused portions, said unfused portions defining pockets containing discrete regions of a functional material selected from the group consisting of particles, liquids, and combinations thereof, said pockets having an approximate width to height ratio of less than about 10.

2. A flexible laminate structure as defined in claim 1, wherein said pockets have an approximate width to height ratio of between about 1 to about 8.

3. A flexible laminate structure as defined in claim 1, wherein said pockets have an approximate width to height ratio of between about 1 to about 5.

4. A flexible laminate structure as defined in claim 1, wherein said pockets have an approximate length to width ratio of less than about 20.

5. A flexible laminate structure as defined in claim 1, wherein at least one of said substrates contains a nonwoven web.

6. A flexible laminate structure as defined in claim 1, wherein at least one of said substrates contains a film.

7. A flexible laminate structure as defined in claim 1, wherein said first substrate and said second substrate are selected from the group consisting of nonwoven webs

having a thickness of less than about 0.1 inches, films having a thickness less than about 0.05 inches, and combinations thereof.

8. A flexible laminate structure as defined in claim 1, wherein said first substrate and said second substrates are selected from the group consisting of nonwoven webs having a thickness between about 0.015 inches to about 0.03 inches, films having a thickness between about 0.0007 inches to about 0.002 inches, and combinations thereof.

9. A flexible laminate structure as defined in claim 1, wherein at least one of said substrates contains a film that is substantially impermeable to liquids but substantially permeable to gases.

10. A flexible laminate structure as defined in claim 1, wherein said unfused portions are substantially permeable to liquids and said fused portions are substantially impermeable to liquids.

11. A flexible laminate structure as defined in claim 1, wherein at least one of said substrates contains an elastomeric component.

12. A flexible laminate structure as defined in claim 1, wherein said functional material has a certain color, said substrates substantially masking said color when said substrates are fused together.

13. A flexible laminate structure as defined in claim 40, wherein said particles are selected from the group consisting of superabsorbents, deodorants, colorants, fragrances, catalysts, germicidal materials, filtration media, proteins, drugs, and combinations thereof.

14. A flexible laminate structure as defined in claim 1, wherein the area of said fused portions is between about 40% to about 60% of the area of said unfused portions.

15. A flexible laminate structure comprising:

a first substrate and a second substrate, said first substrate and said second substrates being selected from the group consisting of nonwoven webs having a thickness less than about 0.1 inches, films having a thickness less than about 0.05 inches, and combinations thereof, said first substrate containing a thermoplastic polymer and said second substrate containing a thermoplastic polymer, wherein at least one of said substrates is substantially impermeable to liquids but substantially permeable to gases, wherein each substrate is textured using heat and pressure to form elevations and depressions in each substrate, said depressions being fused together to form fused portions and said elevations forming unfused, said unfused portions defining pockets containing discrete regions of a functional material selected from the group consisting of particles, liquids, and combinations thereof, said pockets having an approximate width to height ratio of between about 1 to about 8.

16. A flexible laminate structure as defined in claim 15, wherein said pockets have an approximate width to height ratio of between about 1 to about 5.

17. A flexible laminate structure as defined in claim 15, wherein said pockets have an approximate length to width ratio of less than about 20.

18. A flexible laminate structure as defined in claim 15, wherein said first substrate and said second substrates are selected from the group consisting of nonwoven webs having a thickness between about 0.015 inches to about 0.03 inches,

films having a thickness between about 0.0007 inches to about 0.002 inches, and combinations thereof.

19. A flexible laminate structure as defined in claim 15, wherein at least one of said substrates contains a film that is substantially impermeable to liquids but substantially permeable to gases.

20. A flexible laminate structure as defined in claim 15, wherein said unfused portions are substantially permeable to liquids and said fused portions are substantially impermeable to liquids.

21. A flexible laminate structure as defined in claim 15, wherein at least one of said substrates contains an elastomeric component.

22. A flexible laminate structure as defined in claim 15, wherein said functional material has a certain color, said substrates substantially masking said color when said substrates are fused together.

23. A flexible laminate structure as defined in claim 41, wherein said particles are selected from the group consisting of superabsorbents, deodorants, colorants, fragrances, catalysts, germicidal materials, filtration media, proteins, drugs, and combinations thereof.

24. A flexible laminate structure as defined in claim 15, wherein the area of said fused portions is between about 40% to about 60% of the area of said unfused portions.

25. A method for forming a flexible laminate structure comprising:

providing a first substrate containing a thermoplastic polymer;

depositing a functional material onto said first substrate in discrete regions, wherein a suctional force is used to facilitate the positioning of said functional material in

said discrete regions, said functional material being selected from the group consisting of particles, liquids, and combinations thereof;

placing a second substrate containing a thermoplastic polymer adjacent said first substrate such that said functional material is sandwiched between said first and said second substrates;

texturing each substrate and fusing the thermoplastic polymer of said first substrate with the thermoplastic polymer of said second substrate using heat and pressure to form elevations and depressions in each substrate, said depressions forming fused portions and said elevations forming unfused portions, said unfused portions defining pockets containing said discrete regions of said functional material, said pockets having an approximate width to height ratio of less than about 10.

26. A method as defined in claim 25, wherein said functional material is deposited onto said first substrate utilizing a deposition technique selected from the group consisting of vacuum screen, template, xerographic, electrostatic, print, and combinations thereof.

27. A method as defined in claim 25, wherein said pockets have an approximate width to height ratio of between about 1 to about 8.

28. A method as defined in claim 25, wherein said pockets have an approximate width to height ratio of between about 1 to about 5.

29. A method as defined in claim 25, wherein said pockets have an approximate length to width ratio of less than about 20.

30. A method as defined in claim 25, wherein at least one of said substrates contains a material selected from the group consisting of nonwoven webs, films, and combinations thereof.

31. A method as defined in claim 25, wherein said first substrate and said second substrate are selected from the group consisting of nonwoven webs having a thickness of less than about 0.1 inches, films having a thickness less than about 0.05 inches, and combinations thereof.

32. A method as defined in claim 25, wherein said first substrate and said second substrates are selected from the group consisting of nonwoven webs having a thickness between about 0.015 inches to about 0.03 inches, films having a thickness between about 0.0007 inches to about 0.002 inches, and combinations thereof.

33. A method as defined in claim 25, wherein at least one of said substrates contains a film that is substantially impermeable to liquids but substantially permeable to gases.

34. A method as defined in claim 25, wherein said unfused portions are substantially permeable to liquids and said fused portions are substantially impermeable to liquids.

35. A method as defined in claim 25, wherein at least one of said substrates contains an elastomeric component.

36. A method as defined in claim 25, wherein said functional material has a certain color, said substrates substantially masking said color when said substrates are fused together.

37. A method as defined in claim 42, wherein said particles are selected from the group consisting of superabsorbents, deodorants, colorants, fragrances, catalysts, germicidal materials, filtration media, proteins, drugs, and combinations thereof.

38. A method as defined in claim 25, wherein the area of said fused portions is between about 40% to about 60% of the area of said unfused portions.

39. A method as defined in claim 25, wherein said fusing is accomplished by a technique selected from the group consisting of thermal bonding, ultrasonic bonding, adhesive bonding, and combinations thereof.

40. A flexible laminate structure as defined in claim 1, wherein said functional material contains particles.

41. A flexible laminate structure as defined in claim 15, wherein said functional material contains particles.

42. A method as defined in claim 25, wherein said functional material contains particles.

9. EVIDENCE APPENDIX

None

10. RELATED PROCEEDINGS APPENDIX

None